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A Tract for the Times.

DO YOU BRUISE YOUR OATS ?

HOW TO KEEP A HORSE  
ECONOMICALLY:

VIZ. :

FOR LESS THAN ONE SHILLING PER DAY.



(ART AND SCIENCE HAVE NO ENEMIES BUT THOSE WHO ARE IGNORANT.)

The Sixth Thousand.

1853.

## RECOMMENDATIONS of the OAT-BRUISER.

### Riding Academy.

CAPT. HALL presents his compliments to MARY WEDLAKE & Co., and is of opinion the advantage produced by bruising oats is quite evident to his mind, as the horse is brought *into finer condition for work, at a less expense.*

Gravesend, 5th March, 1850.

MADAM,—I have great pleasure in recommending your Oat-Bruiser, which I am now using to break the horse-corn, and am certain my horses *look better*, and I save one-quarter of the quantity I formerly allowed them,

W.M. SQUIRE PLANE, Mayor.

P. S.—I would recommend every person keeping Draft Horses to have the hay all cut, and steamed or scalded with boiling water. W. S. P.

Mrs. MARY WEDLAKE, Fenchurch Street, London.

Mr. REID, Riding Master, Clapham, has introduced the practice, and he urgently recommends the plan, of giving bruised oats to horses: his stud is much improved by it.

The Rev. Mr. EVERARD, of Swaffham Rectory, approves much of your Machine for Bruising Gorse or Furze.

To Mrs. Mary Wedlake

Tandragee Mills, Ireland, February 7th, 1850.

The paper relative to the economical feeding of horses, we consider to be very just. The plan, so far as bruising the oats, is one that we have long practised; we think the horses are much *benefited*, and require a *smaller quantity* of corn.

Mr. BARBER of Hackney, an eminent Coach Proprietor, has *crushed* the oats he gives his horses ~~these several years~~; uses a steam engine for that purpose and for cutting chaff; ~~which is a great~~ saving, and *improves* the animal much.

Messrs. JONES & SELLS, Bankside, ~~say~~ their horses are 25 per cent. the better since they *bruise* the ~~oats~~ ~~grain~~ to them; not that they ever bought any bruising mills of MARY WEDLAKE & Co., for they send their oats to the steam mill to be crushed, not having sufficient room or space to erect the proper machinery for that purpose on their premises, much to their pecuniary loss.

Mr. STANLEY, Veterinary Surgeon, Edmonton, declares horses fed on the above plan are wonderfully *improved*, and that the *saving is considerable.*

Messrs. MORGAN & Co., owners of Collieries, Llanelly, Wales, are much pleased with the Gorse Machine, which works extremely well. Many people come afar to see it.

J. NICOLLE, Esq. of Springfield place, St. Hillier's, Jersey, approves so much of the Gorse Machine purchased by him in February, that he ordered another from the Manufacturer, Mary Wedlake, in March last.

Dr. GRANVILLE approves much of the plan of bruising corn for horses.

Mr. C. TANNER of Stratford, an eminent Coal and Corn Merchant, who keeps a large number of horses, assured his friends he *saves full* 30 per cent. by *bruising* the oats he gives his horses, and besides the animals are in a much *better condition*, and less liable to disease.

Messrs. GAMMON & Co., Coal Merchants, have effected great savings in bruising the oats they allow their horses.

A Craft for the Times ~~7204 \$66.14.~~  
~~11-9.~~

# HOW TO KEEP A HORSE

FOR

LESS THAN ONE SHILLING A DAY,

AND

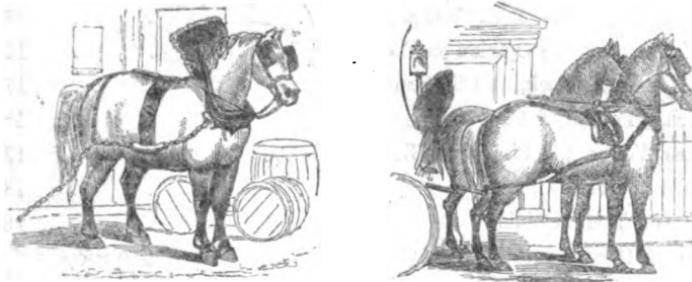
## TWO HORSES

AT THE EXPENSE OF ONE,

BEING USEFUL HINTS ABOUT FEEDING CATTLE ECONOMICALLY AND PRODUCING HORSE, FOAL, OR WHIN AS A SUBSTITUTE FOR OATS.

BY L. P. R. FENWICK DE PORQUET.

(ART AND SCIENCE HAVE NO ENEMIES BUT THOSE WHO ARE IGNORANT.)



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## P R E F A C E.

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THE diversity of opinion, as to the proper system to be pursued, in feeding that most useful and indispensable animal, the Horse, has not sufficiently engaged the attention of either our political or rural economists; and, it is really lamentable to observe the entire neglect exhibited by those whose chief study should be, to improve the condition, whilst they economise the cost of that valuable accessory to the labours and pleasures of mankind.

Without ascribing to ourselves any originality of idea, we wonder that the oldest and best authorities among ancient authors have never been consulted, or, if consulted at all, not followed by the modern Horse-master.

The rapid sale of upwards of five thousand copies of "How TO KEEP A HORSE FOR LESS THAN A SHILLING A DAY," in the short space of eighteen months, has induced the Author of this pamphlet to revise it for a new edition, in which will be found further illustrations and authorities in support of the practice of feeding Horses on a much more economical and sanitary plan than has hitherto been the custom in England, although for many years, adopted by many English Brewers and Scotch (north country) Farmers.

We are living in times, however, when ingenuity is taxed to the utmost in every way in order to decrease expenditure, and ensure the satisfactory performance of duties; and no one would think of turning a deaf ear to the beneficial suggestions and discoveries of the age.

## THINGS TO BE REMEMBERED.

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1. Never give corn whole—bruise it first.
2. Never give dry food to a Horse.
3. Wet the food with hot or cold water.
4. Steam it, if you can conveniently.
5. Never give hay in the rack : take down the rack.
6. Keep Horses in boxes—never tie them up.
7. Give larger feeds at night.
8. Feed two hours before starting.
9. Masters ! always see your Horses fed. Poor things ! they cannot tell their grievances !
10. Let the stable be dry, and the water run off.
11. Let the Horse have always a good litter, that he may lie down after meal.
12. Never give hard water ; or, if you cannot get soft water, let it stand a couple of hours before using it : even then, soft water out of ponds or ditches, if clean, is preferable.
13. Beans should be at least twelve months old before they are given to Horses.
14. Never buy your corn by the measure, but by weight.
15. Always weigh corn, straw, and beans as they come in.
16. Cut a sufficient quantity of straw and hay on one day for the ensuing week.
17. Bruise your oats the same day, and mix the whole well together, on a clean floor, so that the animal may not pick the corn out when served up.
18. Give about a peck or two of the mixture three times a day, the larger portion at night ; and mind to throw a couple of gallons of soft water over it in the manger, and stir the whole well.

## HOW TO KEEP A HORSE FOR LESS THAN ONE SHILLING PER DAY.

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### INTRODUCTION.

To Sportsmen, Equestrians, Farmers, Coachmasters, Livery-Stable Keepers, and others interested in the well-being of the Horse, the question as to the best mode of preparing the food of this noble and useful animal, is one of considerable importance, and one to which the attention of Veterinary Surgeons has been long and earnestly directed in their researches into the economy of that assimilation of food.

The writer does not, therefore, hesitate to publish the results of his own experience (for upwards of thirty-five years), together with a few plain words of advice upon the matter, under a conviction that he may be enabled to *remove some* of the extensive and long-prevailing prejudices which perpetuate a *false* and *injurious* system of feeding, not only among grooms, but among gentlemen themselves, who frequently betray an *unaccountable* indifference to those principles upon which the health and even the existence of their favourite animal depends.

1st. It has been verified beyond all doubt (*as the report of the Royal Agricultural Society testifies*), that bruised corn will so far economize feeding as to effect a saving of, at least, one-fourth over corn given in its *natural condition*.

---

2nd. Hay, given to cattle in the rack, has been proved to be *highly injurious in any quantity*, in consequence of its preventing Horses lying down until the rack is *emptied*, and even, in many instances, not then.

3rd. For want of leisure or inclination, the owner neglects the opportunity of *seeing* his horse fed ; peculation on the part

of the groom is not unfortunately of unfrequent occurrence, or, by other means, the corn is often devoted to the purpose of feeding the pigs or poultry of neighbouring friends.

4th. It is a well-known physiological fact, that Horses, especially young and old, are in the habit of bolting (*swallowing* whole) their food, in consequence of which, instead of the corn affording proper nutriment, *it passes through the intestines intact and undigested*, without affording any nutriment, and to the great and irreparable injury of the *digestive organs*, besides its being a severe loss to the pocket of the master (*see page 30*).

5th. Many parties, previously distinguished for the strength of their prejudices against innovations, novel opinions, and modern improvements—and some of them keeping from fifty to one hundred horses, such as Coach, Cab, and Omnibus Proprietors—have, for a length of time, pursued the system of *bruising* their oats, and they are now ready to bear testimony to the *superiority* of this plan over the other, since they attest that 5 sacks bruised are fully equal to 8 sacks of corn whole or unbruised.

6th. Public attention has recently been directed to a more economical mode of feeding Horses, and as great diversity of opinion seems to exist, as to what particular system should be adopted, we, in order to settle that momentous question, have been at considerable trouble in looking over the old writers on Veterinary-Surgery; and we have found, as we fully expected, that they all agree with us, and with the suggestions which an Implement Manufacturer (Mary Wedlake, of Fenchurch-street) of some celebrity in London, threw out in her circular, concerning the bruising of all kinds of grain in feeding Horses.

In order to be free from the suspicion of being actuated by mere motives of interest, and not of general utility, in promulgating the following directions, we have scrupulously quoted the eminent writers and great practical men from whom the extracts are selected.

## WHAT IS THE MOST SUITABLE FOOD FOR HORSES ?

The feeding of Horses (whatever number may be employed) is an object of great importance, on account of the *heavy expense* of corn-feeding.

With a view to effect a considerable reduction, some few people of late years have tried to do so by cutting Hay or STRAW into Chaff, before corn is given to them.

The bruised tops of furze, also, where it can be conveniently and early procured, will effect much saving in the articles of hay and corn (*see page 14, 21, and 28*), and at the same time afford to the animals a grateful food.—*Complete Grazier*, 4th edit., p. 521.

The general stable-food for horses should consist of meadow-hay or clover, and straw, oats, a few horse-beans, and white peas.

Grain and pulse are commonly used as articles of food, in addition to the *hay*, which of itself, clover excepted, is *not considered sufficiently nutritive and substantial* to support the animal under his most laborious and trying duties.

Oats is the grain generally chosen, from its being the most nutritious of any corn, and agreeing best with Horses ; and to be of the best quality, they ought to be sweet.

### What Quantity ?

The quantity of food necessary for a Horse, should of course be regulated according to the *size* and nature of the animal, and the work *required* of him.

Horses in ordinary work, it is generally allowed, will require little *less than a* peck, or four feeds, of sound and good oats, in twenty-four hours, though, when the work is laborious and unremitting, they may need more to keep them in condition ; much, however, depends on the *size* of the animal ; yet we may assert, *without the fear* of contradiction, from the authority of experienced and practical men, that two pecks, or eight feeds, viz., half-a-bushel, is an *awful waste*.

The pulse used as food are peas and beans. Beans should not be supplied too liberally, as they produce thirst, and make

Horses costive; they should always be *split* prior to being given, and in that state are useful to Horses that are in the habit of throwing off their food. White peas are sometimes mixed with oats by way of *change*, but beans are preferable. Chaff should *always* be given to Horses mixed with their corn, and that grain should invariably be *crushed*.

*Too great* a quantity of food, however, must be *guarded* against, as the stomach in that case becomes *distended*, and is rendered incapable of healthy digestion—crib-biting, becoming hide-bound, &c., are the inevitable consequences.

#### On Hay, Straw.

Hay should *not be given*, except cut with good wheat-straw, and yet but little of the former, and of both, in all, only from seven to ten pounds in twenty-four hours, upon an average, which is sufficient for most Horses.

When it can be conveniently done, the quantity of both hay and corn should be divided into four meals, the largest portion being given at night, the next in quantity in the morning, and the other two smaller portions about noon and at four in the afternoon—if in three meals, the last and largest portion after mid-day.

#### On Purchasing Oats.

In purchasing oats, you generally agree to give either 20s. or 24s. per quarter, or eight bushels: *that is wrong*—purchase a quarter of oats, say at 40 lbs. the bushel. Do not, therefore, receive less than eight times 40 lbs. of oats, making 320 lbs., which at all times, you have a right to *enforce* for the money you have agreed to pay. The vendor will demand of you good money, in a like manner, compel him to give you the *proper weight*, even should he ask you a shilling more, you will then be in the right; otherwise you may be the *loser*, or your cattle, of 16 to 30 lbs. of food.

In buying of corn by the measure (quarters or bushels), you are always exposed to be cheated. Buy by the weight; *never* by the measure!

### On Manger-Feeding.

The system of manger-feeding *is becoming general* among all classes of Horse-Masters and farmers. The provender employed in this system consists of about equal quantities of clover (or meadow-hay\*) and wheaten, oaten, or barley-straw, cut into pieces of a quarter or half an inch in length, and mixed well together (we would strongly recommend three parts of straw and one of hay only)—the allowance of oats or beans being afterwards added and mixed with the chaff.—

*W. Youatt, Esq.*

### On Bruising or Crushing (not Grinding) Oats.

Many persons now very PROPERLY BRUISE the oats or beans, in order that they may be prepared for digestion, should they escape the grinders of the animal.

The advantages of this practice have been clearly established by Dr. Sully, who says, “*the Horses employed in his professional practice, although accustomed to undergo great labour, have no sinecure place, and yet few people can boast of cattle being in better condition.*”

### On Serious Loss Sustained by Keeping Racks in Stables.

In his (Dr. Sully's) stables there are *no racks* to hold the hay ; he objects to employ them for *the very best of reasons* :—

In the first place, the groom, if the stables are fitted up with racks, *will always fill them*, and by so doing tempt the Horse to eat *too much*, thus overloading his stomach ; so that if, when in this distended state, he is taken out of the stable and put to work, *his wind will be endangered* !

And not only does the full hay-rack often occasion this injury to a Horse, but it is the cause of *great and unnecessary waste of provender* !

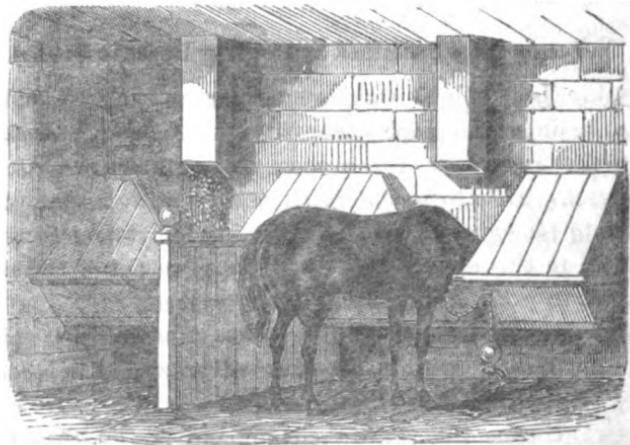
Most Horses that have the command of their heads will pull the hay out of the rack, and throw it under their feet, in order that the best portions may be selected for food, and the rest rejected ; a great waste must necessarily ensue.

\* One-fourth of meadow-hay only, against three parts of oaten or barley straw. This remark is important.

It is Dr. Sully's opinion, that a Horse with a well-filled rack will *consume and soil upwards of thirty pounds of hay in twenty-four hours*; but when it is *cut down and mixed with a due proportion of cut straw and bruised or coarsely-ground oats, or other grain, ten pounds are more than sufficient*.

In the loft, above the stables, are prepared the *proportional quantities* of food with which his horses are daily supplied, and a very simple method has been devised to convey it, when mixed, to the manger of each horse:—A wooden pipe is made to pass from the loft to each of the mangers, and close by the mouth of the pipe, in the loft, is placed a tub, large enough to contain what *is sufficient food for a Horse for twenty-four hours*.

To prevent the Horse, in searching for the grain, from tossing out of the manger the *mixed food* which is dropped into it, *oaken cross bars*, twelve inches apart, are nailed over it; between which bars ample space remains for the Horse to feed. (See cut below). (From the celebrated grazier, the late J. Ellman, Esq., of Sussex.



A scientific paper says, at a period like the present, when British agriculture has so many difficulties to encounter, and a foreign competition to meet, it is of the *utmost importance to ascertain and to adopt the most economical practices*, but not to be drawn into error by misplaced or false economy,

nor to be wedded to customs whose antiquity is their only merit.—*The Veterinarian (Monthly Miscellany)*.

An eminent authority on animal economy, the late Lord Dundonald, stated, as the result of much experience in the keeping of Horses for working an extensive colliery, that a *considerable saving* might be made by using the grain in a *bruised state*.

The same nobleman also said, that he had found the practice of *breaking* the grain highly *advantageous*.

*In speaking of Hunters*, their food must be in a smaller bulk, yet many Hunters have gone well over the field that have been manger-fed, the proportion of corn, however, being materially increased.—*Library of Agricultural Knowledge*.

### **ECONOMY IN HORSE-KEEPING.**

#### **BRUISED OATS.**

In these days, the economical use of whatever comes under the category of “household expenditure” has attracted a good deal of attention ; and those who keep Horses do well in considering, not only how the animals may be *cheaply* fed, but how the same or less quantity of food may be employed to the *greatest advantage*.

These remarks apply more particularly to the lately introduced system of bruising corn, by which, as is stated in the last report of the Royal Agricultural Society, a saving of one-fourth, over corn in its natural state, is effected.

In old Horses the digestion becomes *disorganized*, from the use of oats in their *whole state*, and the food passes through the intestines *without affording the necessary nourishment* ; the animal becomes thin and poor, though it is apparently well-fed, and the groom is *blamed* for what he cannot help.

The system we now urge the public to adopt, we have practically known these thirty-five years, and we know many persons who, for ten or twenty years, have quietly pursued the plan, greatly to their profit, and with advantage to the animal. We shall now only adduce, in support of our claim to public attention, the testimony of the highest authorities.

We are decidedly of opinion that the new plan of feeding Horses is not only *cheaper* than the old, but that the animals are kept in *better condition*.—From *Howitt's Journal*, April, 1850.

**GORSE, OR FURZE.**—(See page 28.)

Young gorse is also a profitable food for Horses, and when bruised in a proper machine, is very nutritious and palatable.—*Veterinarian*, (Number for March.)

**BARLEY-STRAW.**

Barley-straw, estimating it at the same ratio as clover, may be put down at 25s. per ton for feeding Horses; it is, however, in proportion to the nutriment contained, considerably more bulky than hay, and therefore involves more *muscular exertion* and a greater effort of the digestive organs.—(Vet-*erinarian*.)

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**STEAMED OR SCALDED FOOD.**

Dr. Sully (an eminent man in his time, whose authority is incontestable) says—“No food conduces more to the healthy working condition of the Horse than *steamed food*, **NAMELY**, pouring a kettle of boiling water over the food intended for the animal.”

Further, he says—“We entertain but little doubt that the system of *manger-feeding* will ultimately *supersede* every other.

“There are always many prejudices to overcome on the introduction of any new practice, however obvious and important it may appear.

“Some gentlemen, however, in defiance of the prejudice and *opposition* of the *coachman*, *groom*, or *carman*, have introduced this mode of feeding into the stables for their Carriage Horses and Hackneys, and with manifest advantage, there has been no loss of condition or power, but a *considerable saving of provender*.

*Mr. Youatt, in his excellent treatise on the Horse, published under the superintendence of the Society for the Diffusion of Useful Knowledge, by Mr. Charles Knight, says:—*

“The system of manger-feeding is becoming general. There are few horses who do not habitually *waste* a portion of their hay; and by some, the greater part is pulled down and trampled under foot. Some of the oats and beans are imperfectly chewed by all Horses, and scarcely at all by hungry and greedy ones—the *appearance* of the dung will sufficiently evince this.”—*Youatt.*

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*Professor Stewart very properly remarks, that “many Horses swallow (bolt) the corn in great haste; but, by adding chaff to their oats, the Horse must take more time to eat it.”*

He says also—“Chaff may be composed of equal quantities of clover (or meadow-hay) and wheaten, oaten, or barley straw,\* cut into pieces of a quarter† or half-an-inch in length.”

---

*Mr. Youatt says also—“Many farmers very properly bruise the oats or beans; the whole oat is apt to *slip out* of the chaff and be lost; but when it is bruised, and especially if the chaff be a *little wetted*, it will not readily separate.”*

#### On Oat Bruising.

He also remarks—“The prejudice against bruising the oats is, so far as the farmer’s horse, and the waggon horse, and every horse of slow draught are concerned, altogether unfounded, the *quantity of straw in the chaff will always counteract* any supposed purgative quality in the bruised oats.”

“Horses of quicker draught, except they are naturally disposed to scour, will *thrive better* with bruised than with

\* It has been proved by chemical analysis that good and sweet barley or oaten straw possesses more nutritious parts than meadow-hay, to the amount of 25 to 28 per cent.

† Some still adhere to the use of old-fashioned Machines, which with three or four knives cut the straw so fine that it almost reduces it to a powder, and is in that state injurious.

whole oats; for a *greater quantity* of nutriment will be *extracted* from the food, and it will always be easy to appor-tion the quantity of straw or beans to the effect of the mixture on the bowels of the Horse.

“ Some greedy Horses habitually swallow their corn without properly grinding it, and the power of digestion not being adequate to the dissolving of the husk, *no nutriment is extracted*, and the oats are *voided whole* !

“ If the farmer, without considerable inconvenience, could contrive that every Horse shall have his separate division of the manger, the one of the smaller and slower feed would have the opportunity of grinding at his leisure, without the fear of the greater share being stolen by his neighbour.

“ Some horses, however, are naturally greedy feeders, and will not, even, when alone, allow themselves time to chew or grind their corn. In consequence of this they carry but little flesh, and are not equal to severe work. If the rack be *supplied with hay* when the corn is put into the manger, they will continue to eat on, and their stomachs will become distended with half-chewed and indigestible food. In consequence of this, they will be incapable of considerable exertion for a long time after feeding ; and, occasionally, dangerous symptoms of staggers will occur. The remedy is, not to let such Horses fast too long. The nose-bag should be the companion of every considerable journey—*the food should be likewise of such a nature* that it cannot be rapidly bolted.

“ Chaff should be plentifully mixed with the corn, and in some cases, and especially in Horses of slow work, it should, with the corn, *constitute the whole of the food*.”—*Youatt*.

“ It not uncommonly happens that a horse will seldom or never lie down in the stable. He sometimes continues in apparent good health, and feeds and works well; but generally his legs swell, or he becomes fatigued sooner than another horse. If it be impossible to let him loose in the stable, or to put him into a spare box, we know not what is to be done. No means, gentle or cruel, will force him to lie down. The secret is, that he is tied up, and either has never dared to lie

down through fear of the confinement of the halter, or he has been cast in the night, and severely injured. If he can be suffered to range the stable, or have a comfortable box in which he may be loose, he will usually lie down the first night. A fresh well-made bed will generally tempt the tired horse to refresh himself with sleep."—*Youatt*.

#### On Hay in the Rack.

The absurdity is too palpable to need any comment.

#### DOWN WITH THE RACK !

"If the manger-feeding system be good, there can be *no necessity for hay at all*, or only for a very small quantity of it: but if the rack is over-loaded, the greedy horse will be eating *all night*, instead of taking his rest."—*Youatt on the Horse*.

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James W. Winter, Esq., says—"Many greedy feeders swallow much of their corn without proper mastication; the oat thus escapes digestion, and is ejected in a whole state, occasioning *considerable loss*.

"To prevent this, chaff should be made of sweet oaten straw, mixed with the feed, or, better still for old horses, the oats should be previously *bruised* in a hand-mill.

"This practice, from its evident economy, is becoming very general, as it insures the digestion of *every grain* of corn."—

[*Winter on the Horse*.]

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The late eminent Surgeon, W. Sander, Esq., of Gravesend, who for nearly half-a-century practised in that town, used to bruise or break the corn upon which he fed his horses; and he adopted that plan, from the year 1817, to the day of his death in 1850; he was remarkable for keeping horses of a better description, at a cheaper rate, and spent less in horse-flesh than any of his professional brethren—a fact well known to the inhabitants of that place.

From Professor DAVID LOW, Esq., on *Practical Agriculture*.  
5th edit. Longman & Co.

The oat is, for the most part, given to the Horse without any preparation, *though it is sometimes bruised, which is beneficial, by rendering it more easily masticated.*

The Pea is supposed to be more nutritive than the bean; it may, like the bean, be *bruised*, and should be given with other food.

The straw of wheat and barley is in this country only used as litter, though, *were it to be cut into chaff, it could be advantageously used as fodder.*

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With regard to the advantage of the practice of bruising oats and other pulse, in so far as it relates to the feeding of Horses, there have been very different opinions; but it has been remarked by a late practical writer on husbandry, that it is probable, that by having the oats broken or bruised (*not ground*), as has been often recommended, some *saving* in that expensive article may be made.

When given in a whole state, some Horses swallow much of them without due mastication, as is obvious from their being *voided* in a perfect state, and so little *changed* as to be capable of supporting poultry and other granivorous birds.—

(*Farmer's Dictionary*, Baldwin & Co.).

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The late Lord Pembroke says, he experienced 'a vast saving by breaking the corn for Horses.

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Messrs. BARCLAY, PERKINS, & Co., the largest Brewers in the world, *invariably BRUISE* all the Oats for their Horses. A writer in the *Scottish Agricultural Gazette* (quoted *Daily News*, April 19, 1850), who has lately visited their immense establishment, observes: "There are 180 Horses employed, **WHICH ARE A SHOW OF THEMSELVES.** They consume annually 5,000 quarters of Oats, Beans, or other Grain, **THE WHOLE OF WHICH IS BRUISED,**" mixed with chaff made of clover.

The Horses of the London Brewers are generally admired, and it is universally admitted they surpass all others in appearance—the SECRET is in the FEEDING, such as we here advise, which combines the greatest economy with improved health and sleekness.

A sporting weekly newspaper, conducted by men of talent, well versed in all that is connected with the Horse, have reviewed the first edition of this Pamphlet, and have declared their approval of a system long pursued by many of its contributors.

—*The Era.*

*London, June, 1848.*

Several eminent brewers in London have for some time used the HORSE-POWER CHAFF-CUTTING MACHINE and OAT-BRUISER, manufactured by M. WEDLAKE & Co., and they are pleased to state that these implements work in the most admirable order, and give the Partners of the houses every reason for being fully pleased with the mathematical accuracy of all the bearings, which circumstance may account for their working perfectly *true*.

To sprinkle Horses' food with water has the effect of saving much waste of saliva.—*J. C. Loudon, Esq.*

As a substitute for Hay, the straw of wheat, barley, oats, and rye are used.

Mixture or mixed food is formed of several kinds among agriculturists, and it possesses many advantages, as it can be varied to every taste; although it is principally used for waggon, post, and farm horses, *it would be better were its use more universal.*

Of this manger-feeding, one of the best is formed from a chaff made of one part best meadow-hay or clover-hay, and *two parts wheaten straw.* To three bushels of this mixture add one of bruised oats.—*J. C. Loudon, Esq.*

The importance of bruising or flattening the oats is very great.—*J. C. Loudon, Esq.*

When the oat is used whole, the grains are apt to slip between the teeth or the chaff in mastication. In fact, corn

when either given alone or with chaff, would, in most instances, *benefit by bruising*.

To Horses under great exertion, the stomach must be, to a certain degree, weakened also ; in such cases, by bruising their corn, not only is the work of mastication *much spared*, but that of the stomach also.

In old Horses, with worn teeth, *bruised oats are of great consequence*.

Fast-eating Horses do not properly masticate more than one-half of their corn ; much of it remains in the dung so perfectly *unaltered* that it will afterwards vegetate ; an experienced agriculturist states, that during his residence in India, in a season of scarcity, half-famished wretches actually followed the cavalry, and drew their principal subsistence from the unchewed grains of corn extracted from the excrement or dung of the Horses.

Of this manger-food, three, four, five, or six pecks may be given daily, according to size and exertions required ; and as but little hay is required,\* so hard-worked Horses are enabled to ~~BIE DOWN MUCH MORE~~, instead of standing on their already-fatigued limbs to eat hay.—*J. C. Loudon, Esq.*

Mr. Loudon says that the celebrated *J. Curwan* very judiciously observes—A Horse will consume nearly *six hours* in eating a stone of hay, whereas he will eat a stone of manger-food in *twenty minutes* !

The quantity of food to be given to a Horse must be regulated by circumstances, the principal of which is the exertion or nature of the work required of him.

Thus, most of the more valuable Hackneys, the Carriage Horses of the wealthy, &c., are accustomed to be fed not as though their exertions were moderate, but as though they were unceasing, to the *destruction* of a vast quantity of valuable corn. From thousands of such Horses at least one-third of that hay and corn might be advantageously abstracted.

\* We forbid the use of it entirely, and we are supported in that opinion by the highest authorities.

A Horse in full work, of *whatever* kind, will require, according to his size, a peck or four feeds of oats in 24 hours.\* Some post-horses have an unlimited quantity given them, but this practice is surely *erroneous*.

TIME OF FEEDING.—Horses should be fed three or four times a-day, taking care that the *larger quantity shall be given at night*.—*J. C. Loudon, Esq.*

The economy of time is manifest in manger-feeding, viz., at least two hours *saved*, which the Horse may employ in resting, which is far more important for the well-being of the animal than even a *double ration* of food.

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### ON GORSE, FURZE, OR WHIN,

#### As Food for Horses and Cows.

The furze is a well-known indigenous shrub, growing abundantly on light soils and elevated situations: scarcely any plant is more brilliant, when in blossom—at the same time it exhales a very delightful odour.

When Linnæus, the great naturalist, first beheld this plant in blossom in this country, he is said to have fallen upon his knees and offered up a prayer of thanksgiving to the Great Author of Nature for having permitted him to see it.

#### Furze as a Green Food for Cattle.

For this purpose the shoots should not be more than six months old. They require to be passed between rollers or beaten by a mallet, to bruise the ligneous parts and the thorns thereof.—[A Hand-machine for that purpose has been brought out by MARY WEDLACE & Co.]

Gorse has been tried in this way by a number of agricul-

\* How many Horse-masters in the Metropolis give half-a-bushel per day, and some even more! Only fancy 8 to 10 feeds of whole oats per day! which if bruised would make 20 quarterns, or nearly so. The corn-dealer and the groom do not lose by it, either at Christmas or quarterly, when the corn is ordered in or settled for.—EDITOR.

turists, and found a highly nutritive food for Cows, Horses, and Oxen, viz., by R. Spooner, Esq., M.P. (see p. 27).

Horses are exceedingly fond of it, and they eat it as readily as hay; it should be used soon after it is bruised. One to two bushels, with a proper allowance of hay or straw cut into chaff, have been found to be sufficient for three Horses for a day, performing the same labour, *as with corn!*

Cows that are fed upon it, will yield nearly as much milk as when fed upon grass, and the milk is entirely free from any bad taste, and of a far better quality and strength.

"Cattle," says Dr. Anderson, "*eat it perfectly well, when thoroughly bruised, and grow as fat upon it as upon turnips;* but unless it be thoroughly bruised for them, they will not eat it freely, and the farmer will be disappointed in his expectations."

It is said that furze contains salt, which is the reason why Horses and Cattle which feed upon it soon get a clear skin.

—J. Ellman, Esq.

Furze or Gorse will produce or yield from seven to ten tons an acre and more, and continue growing for several years, if it be cut in due season, and stacked for the winter. (See page 28.)

What are some Gentlemen-farmers about? when they are contented with one to three tons of hay per acre per annum!

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R. Spooner, Esq., M.P., has, it is reported, fed for many years a large number of Cows upon furze or gorse,\* mixed with only good oaten straw cut into chaff.

On the Hon. Gentleman being examined before a Board of the House of Commons, upon Agricultural affairs, he repeatedly stated to his having followed that plan with great success; and moreover that the butter made with the milk of Cows fed upon that vegetable, fetched in Birmingham more than that of any other Grazier's! (See the Hon. Gentleman's Examination before a Committee of the House of Commons, page 28.)

Facts are stubborn things!

\* In some parts it is called *whin*.

### Daily Allowance.

In closing these remarks we beg to offer the following suggestions :—

#### I.

Give a horse daily, according to the work he has to perform, two to four feeds of oats (when bruised make 4 to 8 feeds) which must weigh 32 lbs. to 38 lbs. the bushel, to a bushel and a-half of chaff ; if mixed with a bushel of pea-shells and half a bushel of bran, so much the better, provided the whole be well mixed together, taking care to *wet* the quantity given daily by *steaming* it, or throwing hot or warm water over it before giving the food to the animal. *Wetted food goes much further* than when given in a dry state ; therefore it is preferable, when warm water cannot be had, to mix or stir up the ration or feed with even cold water.

#### II.

Or in localities where that *most valuable* and nutritious vegetable *Furze* or *Gorse* is plentiful, it may be substituted with great advantage. If, for the first week *only*, it be reduced to a *pulpy* state, the animal may, by degrees, become so partial to it, as with difficulty *be induced to return to oats.*

#### III.

The *effects* produced upon Cattle of every description by brnised food, whether of corn or gorse, is almost *incredible* ; yet, numerous parties of experience, and of the highest integrity confirm the fact.

These suggestions, it may be added, emanate from a sincere desire by the writer to induce the employment of a principle *economical* in its application to food, and highly *beneficial* to the condition and sleekness of the Horse itself.

#### IV.

In feeding Horses or horned cattle upon *Gorse*, it may be observed that the quantity will vary from one to one and a-half bushels per diem : the chaff should be made of half good clover, barley-straw or sainfoin, cut fine ; the latter the best.

We beg now to refer you to our Nos. 1, 2, 3, and 4 Tables for practice :—

HOW TO KEEP A HORSE  
FOR LESS THAN ONE SHILLING PER DAY,

And make the Animal look better than he may now do whilst you are expending upon him little less than 12s., 14s., and even 18s. per week.

*Consider the enormous saving in adopting the before-mentioned system in these hard times—times of cheapness!!*

(No. 1 TABLE.)  
PER WEEK (SUMMER).

*Oats weighing 35 lbs. to 40 lbs. the bushel, may cost, taking a quantity, 16s. to 21s. per quarter, viz., every 2 sacks, each containing 4 bushels, making 8 bushels or 128 feeds; the bulk of which is nearly 200 feeds or quarters, when bruised, weight will be about 320 lbs.*

	s. d.
Give then one bushel and a-half of oats, cost about	3 9
Which makes 24 feeds or quarters in bulk, nearly 45.	
Give also, one truss of barley, oaten, or wheaten straw	0 6
Half a truss of Hay* cost about	. . . . 1 6
One Half Bushel of bran.	. . . . 0 4
Bushel of pea-shells (this may be omitted)	. . 0 2
Half-a-peck of split beans	. . . . 0 6
Net . . . . .	6 9

The Bulk will be about 16 bushels†,

And the Weight about 144 lbs.

A pleasure Horse can therefore be kept for less than 7 0 per week, viz., one shilling per day!

Gentlemen keeping Horses are not always aware of the importance of giving *cut straw*‡ or hay (the former the better by 22 per cent.) to their Horses along with their oats, which oats should be **BRUISED**, and not too fine.

Bruised oats will go nearly *one-half* further than unbruised

\* We prefer omitting the half-truss of hay, and substituting for it a small quantity of split pease, or else give clover; however, a truss of straw will be found enough.

† Straw contains, say the chemists, more nutrient than hay by 22 per cent. Horses oftentimes are found eating their litter. Why, animals not unfrequently possess more common sense than their owners.

‡ In winter, we recommend the addition of half a bushel of split beans.

*Addenda to the book, "How to keep a Horse Economically."*

## CORRECTED TABLES OF FEEDING.

(ACCORDING TO, NEARLY, PRESENT PRICES)

### Moist Food per Week for a Pleasure Horse.

No. 1.

Of Oats weighing 36 to 40lbs the bushel, which cost, taking a quantity, on an average, 24s. to 32s. per qr. of 8 bushels, give 1½ bushel, which makes 24 feeds or qrtns., which, when well bruised, nearly 46 feeds. Average cost, say .....	5	3
One truss of straw and half a truss of meadow hay (half clover the better, if for draught or heavy horses) .....	2	0
A bushel of bran, (taking a quantity) costs. ....	0	10
Bulk, 13½ bushels—weight, 120lb.		
A pleasure horse may be easily kept for a little more than 1s. per day, viz: .....	8	1
Also, in most places, except London, farmers will readily supply the straw for the sake of the Manure produced; you may then give more straw, and omit altogether the hay, here charged, which will effect a saving of at least 2s., which, please to deduct, will leave, even in dear times, an expenditure of only .....	6	1
Provided the whole be well amalgamated with hot or cold water, say a quart, each time you feed, only so far as to merely damping the whole a little		

## Keep of a Farm per Week.

### MOIST FOOD.

#### No. 2.

	s.	d.
A bushel of light Oats at 24s .....	3	0
A truss of straw at 36s per load of 36 trusses .....	1	0
Half a bushel of Bran .....	0	5
Quarter of a truss of hay .....	0	6
Bulk, about 10 bushels—weight, about 90lb.		
	4	11

### Moist Food per Week for Large Horses, Working Hard.

#### No. 3.

Two bus. of Oats at 28s. to 30s. will pro-		
duce in bulk nearly .....	4	bshl. cost, say
One truss of straw and a half of hay	7	0
make, of chaff about .....	9	bshl. ,,
Bushel of Bran .....	1	bshl. ,,
	0	10
bulk about .14 bshl.	9	10
Weight about 140lbs.		
P.S.—Few horses will ever get through the above		
(nearly two bushels per day) in a week.		
Deduct for straw and hay, if exchanged for the manure	2	0
Remain.....	7	10

In the above calculation of expenditure, much must be regulated by the times and by the locality ; it will be found right by one shilling, more or less. The quantity also purchased at a time will effect our estimate one way or the other. A buyer taking one hundred quarters of oats will pay less than one purchasing only two quarters at a time

oats; if mixed with chaff, 3 bushels bruised are equivalent in bulk to 5 bushels and a half of whole oats.

When a Horse has *satisfied* his appetite and feels full, he naturally feels *inclined* to lie down and *REST*, instead of continuing to eat or *waste hay* at the rack, often the best part of the night. The waste is computed at 30 lbs. of hay per 24 hours, by Loudon and others.

OATS . . . . . weighing 35 lbs, cost 16s. to 21s.  
will go further when } weighing 44 lbs., cost 24s. to 26s.  
bruised, than oats }

Saving on a quarter about 7s.

This comparison is only computed as to the *money value* of the article; whatever quantity you may choose to give, supposing, you insist upon allowing the same quantity, yet you save by bruising, and the corn will go much further.

Each quantity to be *wetted* with hot water, if convenient; never give dry food; use cold water, if warm cannot be had.

NOTE.—In the above calculations as to market-price, the reader is requested to observe, it must vary according to season or locality; for instance, Straw may be had out of London for 18s. to 24s. per load, whereas in London, or when the article is scarce, it may cost 25s. to 36s.; the same of oats; yet, taking all these into consideration, it will affect our tables but as to a few pence per day more or less.

(No. 2 TABLE.)

How to Keep Two Carriage Horses at the Expense of One.  
(Per Week.)

Cut, bruise, prepare, and mix, on any Saturday, for the week ensuing, the following articles:—

Of good sweet Barley-straw, three trusses, cost (say £ s. d.)	0	1	6
about 18s. per load)			
Of Meadow Hay, one truss	0	1	6

Cut both with a chaff-machine,\* and lay the whole on a clean floor.

Then bruise of Oats, three bushels, at 20s.,			
cost (say)	0	7	6
Bushel and half of Bran	0	0	9
Beans (split) half-a-bushel	0	2	0

Bulk, about 35 bushels, weight upwards of 300 lbs. 0 18 3

\* A hand Chaff-box may be used instead of a Chaff-cutter or engine with a fly-wheel, but it is a slow process, not liked by the Groom owing to the exertions required to work it.

The whole should be well *mixed* or *stirred* with a wooden shovel, till completely amalgamated; then put into a chest, bin, or laid on a clean floor, kept apart for that purpose with lock and key. Give out, three or four times a-day, a peck or two at a time to each horse; but, be careful to *wet* or *scald* with a half a pailful of hot water every feed so given, and stir the whole well together in the manger. A bushel of split Peas may be added occasionally, in the summer; but never fail of allowing beans in the cold season.

#### No Hay in the Rack.

Do not allow *Hay* in the rack on any consideration, for it is *not wanted*, and it would be a mere waste to allow any. Hay in any quantity swells in the stomach, and is likely to hurt the wind; and to that abominable practice may we not attribute the loss of that noble animal's wind.

(No. 3 TABLE.)

#### FULL WEEKLY ALLOWANCE TO ONE HORSE.

*Résumé*.—Let us now minutely examine another mode of feeding a Horse, either in town or country, without regard to expense.

	Bulk.	Money.	Weight.
		s. d.	
Give two bushels of oats, at 20s., will produce nearly	4 bush.	5 0 ..	80 lbs.
Two trusses of straw make about	11 $\frac{1}{2}$ ,,	1 0 ..	72 ,,
Half-a-truss of meadow or clover hay	5 $\frac{1}{2}$ ,,	1 6 ..	28 ,,
Pea shells, 1 bushel	1 ,,	0 4 ..	6 ,,
One and half bushel of bran*	1 $\frac{1}{2}$ ,,	0 9 ..	15 ,,
Half-bushel of split peas	$\frac{1}{2}$ ,,	0 1 ..	18 ,,

Will make about . . . 24 bush. .. 8 8 . 219 lbs.  
Well wetted when served up.

Bulk . . bushels 24

Weight . . pounds 219

In money, about . . 8s. 8d.

*Few* Horses will be found consuming *clean out* the above.

Let it be recollected that *Oats* at 19s., when *bruised*, will go as far as to the nutriment ministered to the animal, as Oats bought at 26s. We challenge *any practical man*, except *corn-*

\* If horses are apt to scour, reduce occasionally the quantity to half a bushel.

*dealers and grooms*, to deny the fact ; hence a saving of 7s. alone on this head.

Most extravagant horse-masters, proud of exhibiting to the gaze of the bystanders the *enormous* bulk of their animals, will give half-a-bushel a-day, or  $3\frac{1}{2}$  bushel or 56 feeds (or quarters) per week.

In order not to be deceived by the groom, we would advise the Horse-master to have in his stable a common weighing-machine, and to insist on the feeds given daily to be properly weighed. But, no ! the groom will not advise you to go to the expense of laying out 50s. or 60s. for such a necessary implement, which should make manifest the cause of his dislike to such a monitor. If, as we recommend, each horse, according to his size and the work he performs should be served daily with 20 to 30 pounds weight of food, composed of duly cut straw and bruised grain, before such quantity can be put on the weighing machine, it must be *cut* and *bruised*, and the exertion employed in cutting the same is not always liked by the Gentlemen's Gentlemen, as they are styled. A good Chaff-cutter will produce, if well worked, from 10 to 50 bushels per hour. Yet it is oftentimes considered too hard work by many lazy servants.

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#### CONCLUSION.

#### **DAILY ALLOWANCE.**

TO BE WORKED EVERY 24 HOURS.

A word to those servants who, willing to adopt any improvement for the benefit of both their employers and the cattle entrusted to their care, are oftentimes entirely debarred from effectually following the above suggestions for *want of time*. A day, or even half-a-day, once a-week, cannot always be spared. We would recommend to cut and bruise daily just what is required for the next 24 hours ; for instance :—

(No. 4 TABLE.) TIME.

Bruise a peck (4 feeds) .. in 5 Minutes.  
Chaff one bushel and half in 5 Minutes.  
Mix the whole ..... in 5 Minutes.

Total ..... 15 Minutes.

We have repeatedly cut a bushel of chaff in one minute ; so that many active fellows could cut, bruise, and mix the daily quantity in less than 7 minutes. However, in allowing a quarter of an hour, they cannot complain they are too hard worked—it will greatly improve their health.

THE END.

## ON GORZE, FURZE, OR WHIN,

ON ITS CULTIVATION AND USE AS A SUBSTITUTE FOR OATS AS FOOD FOR HORSES AND HORVED CATTLE.

The following Queries were put to R. Spooner, Esq., M.P., before a Committee of the House of Commons, and the annexed answers were given by that Gentleman.

Q.—How long have you used Whins, or Gorse for Cattle, and whether partially or for your whole establishment?

A.—Fourteen years this season for dairy cows, fattening cows, and horses.

Q.—What animals do you consider it to suit?

A.—It equally suits all the above animals. Sheep I have not tried it with. I doubt whether they will be easily got to eat it: they do not like anything which has been bruised with iron. Whins must be bruised, and my machine is iron.

Q.—In what quantities, and whether alone or mixed with other fodder?

A.—Not mixed; three bushels and a-half per day is sufficient for each cow. I have four-and-twenty cows in one house; besides the Whins, they eat per day one hundred-weight of hay and eight bushels of Swedish turnip amongst the twenty-four cows; being about four pounds and a half of hay per cow per day, and twenty pounds of Swedes per cow per day. On this dairy cows are kept in excellent condition, and the butter is remarkably good; fattening cows will feed fast. When Swedes fail or are scarce, I substitute about four pounds of oilcake per day to each cow; and as the fattening cows get forward I increase the quantity of oilcake gradually; the most I give is twelve pounds per day to large cows, and that only for the last month.

Q.—By what machinery is it prepared for use?

A.—First eat through a common chaff-cutter,\* then bruised in a mill similar to the old cider-mill; the revolving wheel surrounded with fluted iron; at the bottom of the chase a plain iron plate.

Q.—In what manner is it cultivated, and at what age, and in what manner cut for use, with the average produce?

A.—Sown as clover-seed, with a crop of barley or oats: is fit to cut the November twelve mouths after sowing; it is then mown every year during the winter, as wanted, with a common scythe close to the ground; on good dry land will cut from seven to ten tons per acre.

Q.—Is the plant you use the common Whins, or Gorse, or any particular variety of it?

A.—It is called French Furze, but is very common in England.

MARY WEDLAKE & Co.'s New Machine requires no chaff cutter—it is done by hand-labour, and at one operation.

Q.—On what do you grow it?

A.—On an old woodland, stocked up, part a burning gravel, part a strong clay, but very dry at bottom, and very hilly. Half an acre of this land is on the average sufficient to keep a cow twenty weeks. On rich loamy dry land I have no doubt nearly double quantity may be grown.

Q.—What do you consider the peculiar advantage, and what the danger of using it?

A.—The advantages are apparent from the above answers. There is no danger in using it if well ground, and mixed with salt in the proportion of four ounces per cow per day.

Q.—State the expense of cutting in the field and bruising for use.

A.—Mowing, carting, cutting, and bruising, costs not quite a penny a bushel.

Q.—State any general observations on the subject.

A.—It requires no manure, but in its consumption creates a great deal. Will grow on poor hilly land, if dry, which will not pay for cultivating. When once sown and well rooted, it yields a great quantity of food for cattle at no other expense but the one above stated. I have cut the same ground now for fourteen years—have done nothing to it; and with the exception of some parts of the burning gravel which the hot weather has this year affected, it seems to promise as good a crop as heretofore. I generally begin to mow it as soon as grass is gone, and it lasts till grass comes again. If there is an appearance of snow, I mow some quantity beforehand, and it will keep thrown down in heaps in the rick-yard; but it must not be bruised till it is wanted, as it will not keep after bruising. The quantity of seed to be sown per acre is twenty pounds. Mine is sown broadcast; but I should recommend it to be drilled as near in the rows as will admit hand-hoeing for the first year or two if the land is inclined to run to grass. I do not feed with Furze on a Sunday, as the cows do not like it unless it is given them fresh from the mill.

RICHARD SPOONER.

*Brickfields, near Worcester, Nov., 1836.*

*Worcester, 8th November, 1849.*

SIR,—I believe the annexed paper answers all your queries. You will observe by the date that it has been published thirteen years. The same plant of Furze has been cut, and used ever since till this year. About five years ago the food showed signs of a deteriorating character, and since that time has been decreasing in quantity and quality. On examining the roots, I found that they were quite decayed; I therefore have ploughed it up. I presume that this decay is owing to the plant having been mowed down close to the ground for twenty-seven years. I am preparing another piece of ground, which I purpose sowing with Furze. Sir Robert Lawley, Middleton Hall, near Tamworth, and Lord Aylesford, Pakington Hall, near Meuglen, I am informed are both using Furze for food of cattle to a great extent.

I am, Sir, your obedient servant,

W. RIEMENSCHNEIDER, Esq.

RICHARD SPOONER.

A very eminent firm in the city, who keeps about 75 Horses, had been in the habit for years of allowing for each horse, per day, half a bushel ; which is considered a fair allowance for a hard-working Horse ; for we are acquainted with several houses who never limit the quantity, but who request that the manger should never be without corn.

Now, the above firm lately introduced manger-feeding strictly in accordance with the fore-mentioned regulations, and at the end of a month their veterinary surgeon called at the Country-house and advised the firm to withdraw or shorten by 35 (or one-seventh) bushels weekly the quantity usually allowed, because their stock of Horses were in such famous condition, as to be unable to do their work ! ! The name of the firm may had on application.

Facts are stubborn things !

Tottenham, 17th November, 1851.

Messrs. Wedlake & Co.,—Gentlemen,—The Crushing Machine I had of you I find answers very well indeed, and is certainly a great saving, as I only give the same measure crushed as I did before uncrushed, and the Horse looks much better.—I am gentlemen, yours obediently,

J. McRAE.

(From "The Agricultural Gazette and Gardeners' Chronicle," of December 28th, 1850.)

SIR,—In your number for December 7th, a correspondent at Chorley has given his experience of "Chaff-Cutters and Oat-Bruisers." He "bought those implements and used them some years because everybody else did ;" and he "doubts whether both are not positively wasteful." He will "be glad if he can provoke discussion in your columns."

Permit me, Sir, to say my experience of those implements is altogether the reverse of his. He has not stated the number of "years" he tried them, nor the way by which he arrived at his astounding conclusions except the increased "gaiety of a young horse." He "watched the horse and the stable-man more closely."

It not unfrequently happens that the parties having the care of cattle are much opposed to any innovations upon their system, and they can generally thwart the efforts of those that introduce them ; thus showing the necessity of parties who wish to introduce anything new, taking care to superintend very closely for a short time the conduct of any experiments they wish to make ; better still if conducted by themselves.

I have, Sir, been using the "Oat-Bruiser and Chaff-Cutter" for nearly thirty years, and I know full well, that if anything is wrong with either of them, my pocket suffers an increased draught to the extent of one-half at the least.

I will explain. The hopper of the bruiser holds a bushel of corn (whole) the rollers are set to work, and in a few minutes that same bushel is remeasured ; it is found to have increased in bulk at least one-half, but if corn is well crushed, it will measure three-fourths more than when first put into the hopper. This of course applies to quarters, or hundreds of quarters in the same ratio. And after many close experiments with the crusher, either by my own hands, or under my inspection and direction, I conclude, the least saving in the consumption of corn is one-half ; because by giving the animals (not horses merely) the same quantity in measure of crushed corn they were accustomed to receive of uncrushed (the work being equal,) they will keep in better condition.

But, Sir, to speak with confidence, there must be personal inspection of these things ; and if your correspondent continues incredulous, I would request him to have collected some of his horses' droppings, to dry and sift them, and then sow the corn that remains, and he will find in a short time a luxuriant green crop on his land. What I wish to impress is a fact, that all the various animals swal-

low of corn *unbroken* is worse than *useless* to them ; 'they do not derive the smallest nutriment from it, and have wasted their saliva and gastric juice in merely softening the grain.

I have tried it with cows, beasts, and pigs, as well as horses, and with the same results from any grain.—Beans, Peas, Barley, Rye and Wheat, as well as Oats; it must be so ; reason and facts settle the question, where the practice is fairly tried ; but to do this requires more attention and labour than many will give ? Let not the implements have an ill name. Perhaps some may imagine I have an interest in the manufacture of those implements, I beg to assure any such I have not either directly or indirectly.

The cutting of hay and straw, I am of opinion, effects a saving to nearly the same extent as crushing of Oats ; and I must, ere I close, refer to the great difficulty there is in overcoming prejudices when early imbibed.

I was in London a short time since, and called at stables where I had put up for many years. I inquired of the proprietor how his stock went on (I had, after several years' attempts, induced him to put up power and crush his Oats and cut his chaff.) He replied, "Very well, indeed." "You have now found what a great saving it is?" said I. Mark the reply. "No, it is no saving ; but my horses look a great deal better, and do their work better." "Well, then, that is a saving ; but I fear you have not calculated." "No, it is no saving ; but they work much better, and do more of it. Why, I have been able to take upwards of £1,500 more job-work than I did ; but I do not see that is any saving." He could not see with my eyes, and I left, right glad that I had persuaded him to try the practice ; for in three or four years this was the result. I can understand the party consumes nearly as many quarters of corn as he did before ; but if in a year he can do "upwards of £1,500 worth more work," it appears to me he has just saved the £1,500 without an increased outlay. If I am mistaken some of your correspondents will correct me.

I apologise for the length of this ; yet would endeavour to induce proprietors of live stock to give themselves no rest until they have in use "*Oat-crushers*" and "*Chaffcutters*." The owner of a single horse *can save the expense of the hand-machines in a few months*. They cannot possibly be too strongly recommended. I beg to add, that wherever the crushers are purchased, the makers should spare no pains to instruct the parties in their proper use and means of adjustment. I have been surprised to see how little acquainted some persons are with the right use of those implements ; I have seen the rollers *screwed up close* at one end, and *open a quarter of an inch at the other*, or open altogether wide enough to permit peas to pass through uninjured, and the complaint was, "that the oats were not better after they had been put through, nor was their bulk increased." Very wonderful, indeed ! *Let the practice be fairly tried, and the results will be most satisfactory.*

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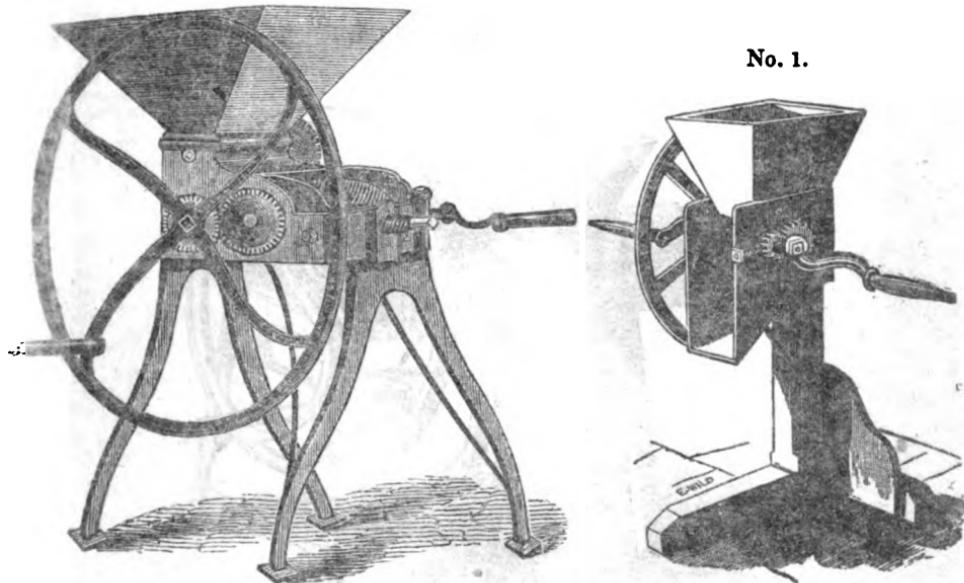
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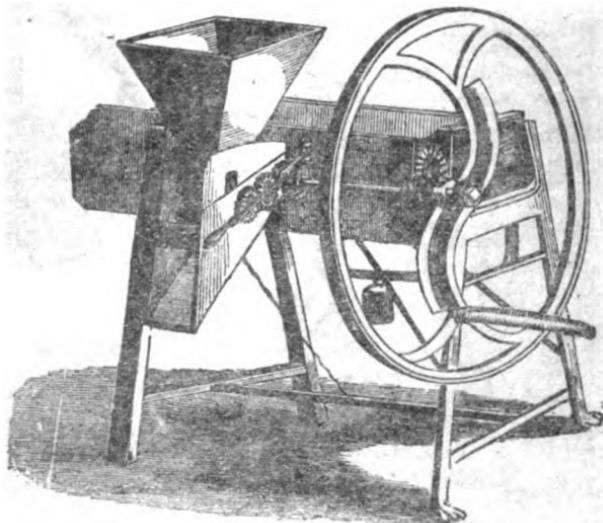
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